



U.S. Department of Energy  
Energy Efficiency and Renewable Energy

*federal energy management program*

# **Welcome to FUPWG Sandestin**

**David McAndrew  
Federal Energy  
Management Program**



U.S. Department of Energy  
Energy Efficiency and Renewable Energy

*federal energy management program*

## **Be Present and Participate**

Please turn off cell phones and blackberries

We will have lots of breaks for you

If you really need to take a call or use your  
blackberry please step outside

Remember to say thanks to Scotty and Claire



U.S. Department of Energy  
Energy Efficiency and Renewable Energy

## ***Presentation Overview***

- ***EERE Major initiatives***
- **EISA 2007**
- **EE Trends in the Utility Industry**
- ***Upcoming events***



## DOE TEAM Initiative

**DOE will strive to meet, exceed and/or lead in  
the Federal implementation of Executive Order 13423**

<i>Executive Order 13423 Goals</i>	<i>Meet</i>	<i>Exceed</i>	<i>Lead</i>
1. Increased Energy Efficiency	✓	✓	✓
2. Renewable Energy Generation and Use	✓	✓	✓
3. Petroleum Reduction/Alternative Fuel Use (Fleets)	✓	✓	✓
4. Sustainable Building Standards	✓	✓	
5. Water Conservation	✓		
6. Sustainable Environmental Practices in Acquisitions	✓		
7. Reduction in Toxic and Hazardous Material Use/Solid Waste Diversion/Recycling	✓		
8. Electronics Stewardship	✓		



## **DOE TEAM Program Features**

- **Secretary issued Departmental Order 430.2B**

Requires each facility to prepare “executable plans”

Ensures DOE will meet & exceed E.O. 13423 goals through binding agreements with each facility

- **“Center of Excellence” established at Golden**

Focus on procurement, engineering, legal, & project-management issues

- **Initial Targets - HQ, Germantown & top 20 facilities**

Directs all other sites to comply with TEAM goals & requirements



## **GREEN ENERGY PARKS PARTNERSHIP** **Program Features**

**Goal** Improve the energy & water efficiency of our national park system

**Who** Partnership between DOE/FEMP & DOI/NPS

**What** Conduct short-term projects  
Plan and seeking financing for longer-term projects to support 2016 NPS Centennial

**How** Leverage public & private sector resources: third-party financing, corporate donations, etc.

**When** Conduct summer MOU Signing Ceremony with DOE & DOI Secretaries



- **DOD DOE Partnership**
  - Align EERE's programs toward assisting DOD in meeting its goals and objectives for its facilities
  - Increase coordination between DOE and DOD on technical evaluation and R&D activities
  - Focus on developing "Net Zero" Bases
- **Hawaii Clean Energy**
  - If not Hawaii then where?
  - Emphasis on
    - Renewable energy
    - Sustainable design in new buildings
    - Training and energy awareness
    - HECO is a major partner in the Effort
  - Deb Beattie is coordinating FEMP Effort



U.S. Department of Energy  
Energy Efficiency and Renewable Energy

# Energy Independence and Security Act of 2007





# Key sections

- High Performance Federal Buildings (Title IV – Subtitle C)
- Energy Savings Performance Contracting (Title V – Subtitle B)
- Energy Efficiency in Federal Buildings (Title V – Subtitle C)
- Federal Vehicle Fleets & Biofuels Infrastructure (Title I & II)
- Other Energy Efficiency and Sustainable Energy Provisions
- Provisions Not Adopted

I am not going to cover them all!



- Adopts the energy intensity reduction goals of Executive Order 13423 beginning in FY 2008
  - Reduce Btu per gross square foot 3% per year:
    - 9% in 2008
    - 12% in 2009
    - 15% in 2010
    - 18% in 2011
    - 21% in 2012
    - 24% in 2013
    - 27% in 2014
    - 30% in 2015
  - Compared to FY 2003 base year
- Remember excluded does not mean excused
  - Must meter
  - Must certify all cost effective ECMs implemented
  - Must meet audit requirements



## Sec 432: Facility Management Requirements

- Agencies must identify “covered facilities” to include at least 75% of energy use
- Comprehensive audits must be conducted at 25% of facilities each year
- DOE must deploy a web-based tracking system to:
  - Track implementation of audits
  - Identify each facility’s potential measures
  - Track estimated cost and savings of measures & verify actual savings
  - Be available to the public
- Covered facilities must designate energy manager to:
  - Conduct comprehensive energy and water audits
  - Implement identified ECMs; (bundling permitted)
  - Ensure adequate M&V and O&M up on implemented ECMs
  - REMs maybe assigned energy managers



## Sec 432: Facility Management Requirements (cont'd)

- Energy managers shall also enter data for each facility into a benchmarking system (i.e. Energy Star Portfolio Manager)
- DOE Guidance:
  - Guidelines on designating energy managers **(16 Jun 2008)**
  - Criteria for covered facilities **(16 Jun 2008)**
  - Guidelines for project implementation and follow-up measures **(19 Dec 2008)**
  - Select or develop benchmarking system (Energy Star) **(19 Dec 2008)**
- OMB energy scorecards will be based on the requirements of Sec 432
- Authorizes agencies to use appropriations, private financing, or a combination to comply with requirements



## Section 433: Federal Building Energy Efficiency Performance Standards,

- Directs DOE to
  - Revise Federal building standards to require that the fossil fuel-generated energy use be reduced by:
    - 55% in 2010
    - 65% in 2015
    - 80% in 2020
    - 90% in 2025
    - 100% in 2030
  - Require that sustainable design principles be applied to siting, design and construction
  - Identify a certification system and level for green Federal buildings
- Directs the **FAR Council** to revise FAR within 2 years to comply with the Act's provisions



## Standards for New Buildings/Renovations (cont'd)

- **Section 434**: Major equipment replacements or renovations must use the most efficient equipment and designs that are life-cycle cost effective.  
**Not later 16 Jun 2008**, each Federal agency shall:
  - Develop a process for reviewing decisions made on a large capital energy investment to ensure that the requirements are met; and
  - Report to the Director of the Office of Management and Budget on the process established
- **Section 434(b)**: Extends metering requirements to natural gas, steam, and water



- **Section 523:** Requires 30 percent of the hot water demand in new Federal buildings (and major renovations) to be met with solar hot water equipment, provided it is life-cycle cost-effective
- **Section 323:** Requires GSA to:
  - Estimate future energy performance of building and describe use of EE & RE systems in prospectus of proposed facilities
  - Set requirements for energy efficient lighting in Federal buildings



## Leased Space

- **Section 323:** GSA must establish minimum EE & RE performance for leased space
- **Section 435:** prohibits Federal agencies from leasing buildings that have not earned an EPA Energy Star label.
  - Exemptions are provided if the agency:
    - has no space available in a labeled building that meets the functional requirements of an agency;
    - proposes to remain in its current building;
    - proposes to lease a building of historical, architectural, or cultural significance (as defined in section 3306(a)(4) of title 40, United States Code) or space in such a building; or
    - has a lease that is less than 10,000 gross square feet
  - **Effective 19 Dec 2010**





## Section 511: Authority to Enter into Contracts and Reports

- Requires agencies to report on “any termination penalty exposure” in addition to the energy and cost savings resulting from ESPCs
- Eliminates government-wide Congressional Notification requirement for projects over \$10M 42 USC 8287(a)(2)(D)iii
- Eliminates Defense Department Congressional Notification requirement for projects over \$7M 10 USC 2913(e)

## Section 512: Financing Flexibility

- Allows the use of appropriated funds to be combined with financing to leverage ESPC projects



## Section 513: Promoting Long-Term ESPCs and Verifying Savings

- Prohibits agencies from establishing a policy to limit ESPC projects to less than the maximum 25 year term. Also prohibits agencies from establishing policies to limit the size of individual projects

## Section 514: Permanent Reauthorization

Deletes sunset provision, authorizes ESPC permanently

## Section 515: Definition of Energy Savings for ESPCs

- Expands definition of energy savings to “co-generation or heat recovery”
- Allows for the sale or transfer of excess electric or thermal energy generated on-site from renewable energy or co-generation



## **Section 516: Retention of Savings**

- Corrects a legacy legislative problem with retention of savings provisions. Allows agencies to retain 100% of savings on site

## **Section 517: Training of Contracting Officers to Negotiate Contracts**

Requires DOE to train contracting officers throughout the federal government to negotiate and “conclude effective and timely contracts”

## **Section 518: Study of Energy Savings in Non-Building Applications**

- Calls for a federal study and report to Congress on the potential for the use of ESPCs to reduce energy in non-building applications, including
- Mobility: Vehicles, ships, planes, etc...
- Federally-owned equipment used to generate electricity



- **Section 522:** prohibits, except under certain circumstances, the purchase of incandescent light bulbs for use in **Coast Guard** office buildings
- **Section 524:** Low standby use appliances (>1watt or lowest avail)
  - Requires DOE, DOD, EPA, and GSA to compile list of cost-effective products
  - Requires agencies to purchase from list
- **Section 525:** Requires Federal procurement to use of Energy Star and Federal Energy Management Program (FEMP)-designated products
- **Section 526:** Prohibits Federal agencies from procuring synfuel unless its life cycle GHG emissions are less than those for conventional petroleum sources



**Section 141:** Agencies must purchase low greenhouse gas emitting vehicles identified by EPA unless there is no vehicle listed that can meet the agency's need.

**Section 142: Fleet Conservation:** Agencies must:

- Reduce petroleum consumption by 20% per year
- Increase alt fuel consumption by 10% per year
- Based on a 2005 base year
- Agency must have an implementation plan
  - Listing specific measures
  - Quantifying savings from each measure

**Section 246 Fleet Fueling Centers:** Requires Federal agencies to install at least one alternative fuel pump at every Federal Fleet refueling center by 2010



**Section 527** requires agencies to submit annual reports to OMB

Compliance by the agency with requirements

Status of implementation of initiatives to improve energy efficiency, reduce energy costs, and reduce emissions of greenhouse gases; and

Savings resulting from mandated improvements

**Section 528,**

Requires **OMB** to submit an annual report to Congress,  
**by April Fools Day each year!**

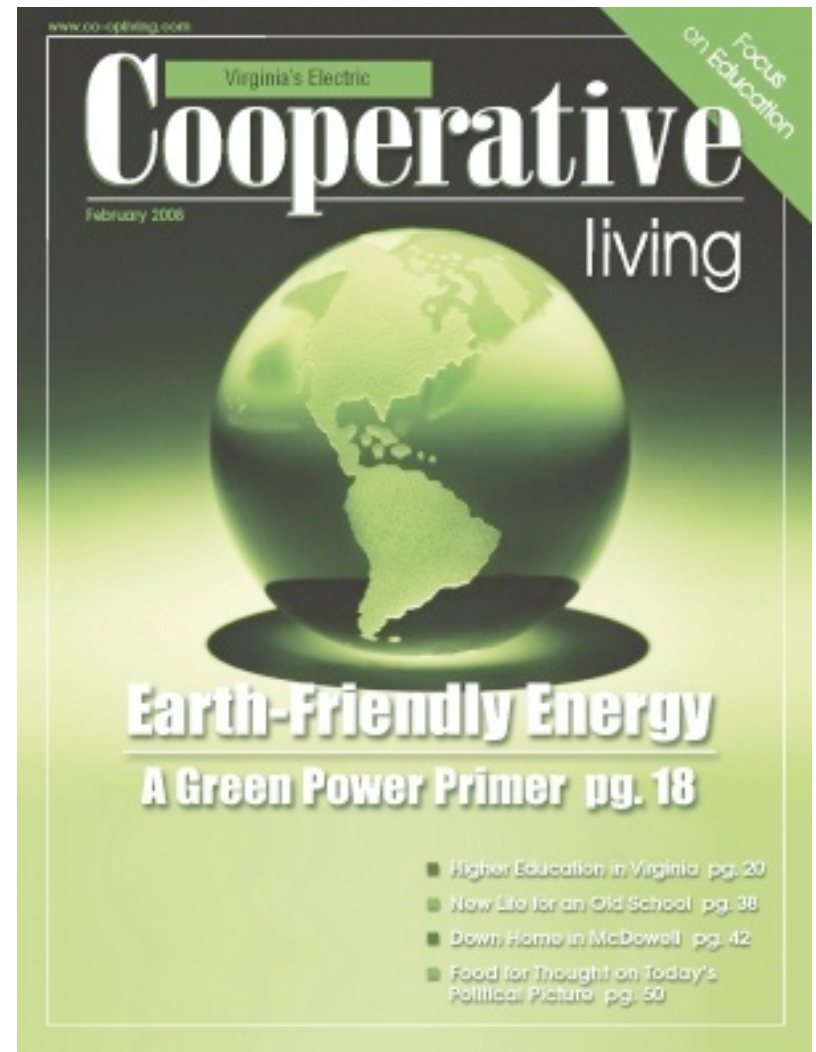
OMB shall include description of agency compliance in energy management scorecard



U.S. Department of Energy  
Energy Efficiency and Renewable Energy

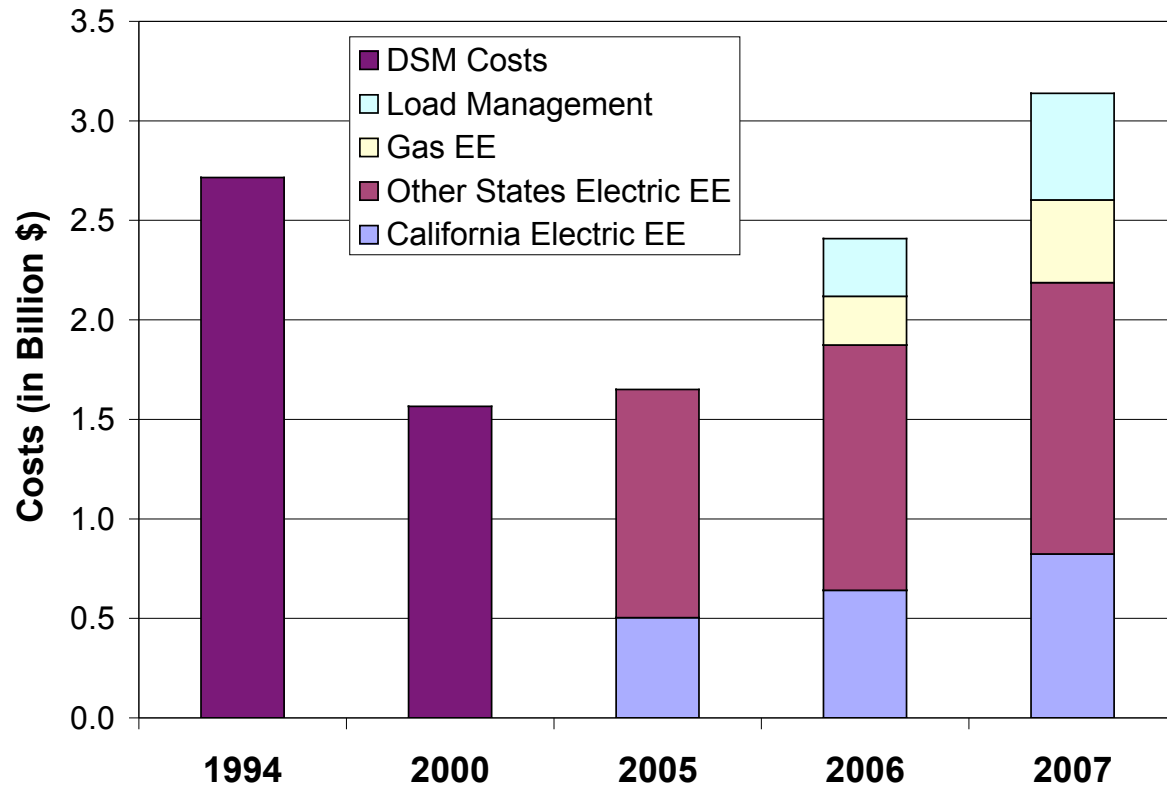
# Utility Industry Trends

- Economics and politics of EE look increasingly attractive
  - Being green is in
  - High prices have gotten industry's attention
  - EE as is often a requisite for capacity additions
  - We have seen evidence first hand





# Increases in EE Spending



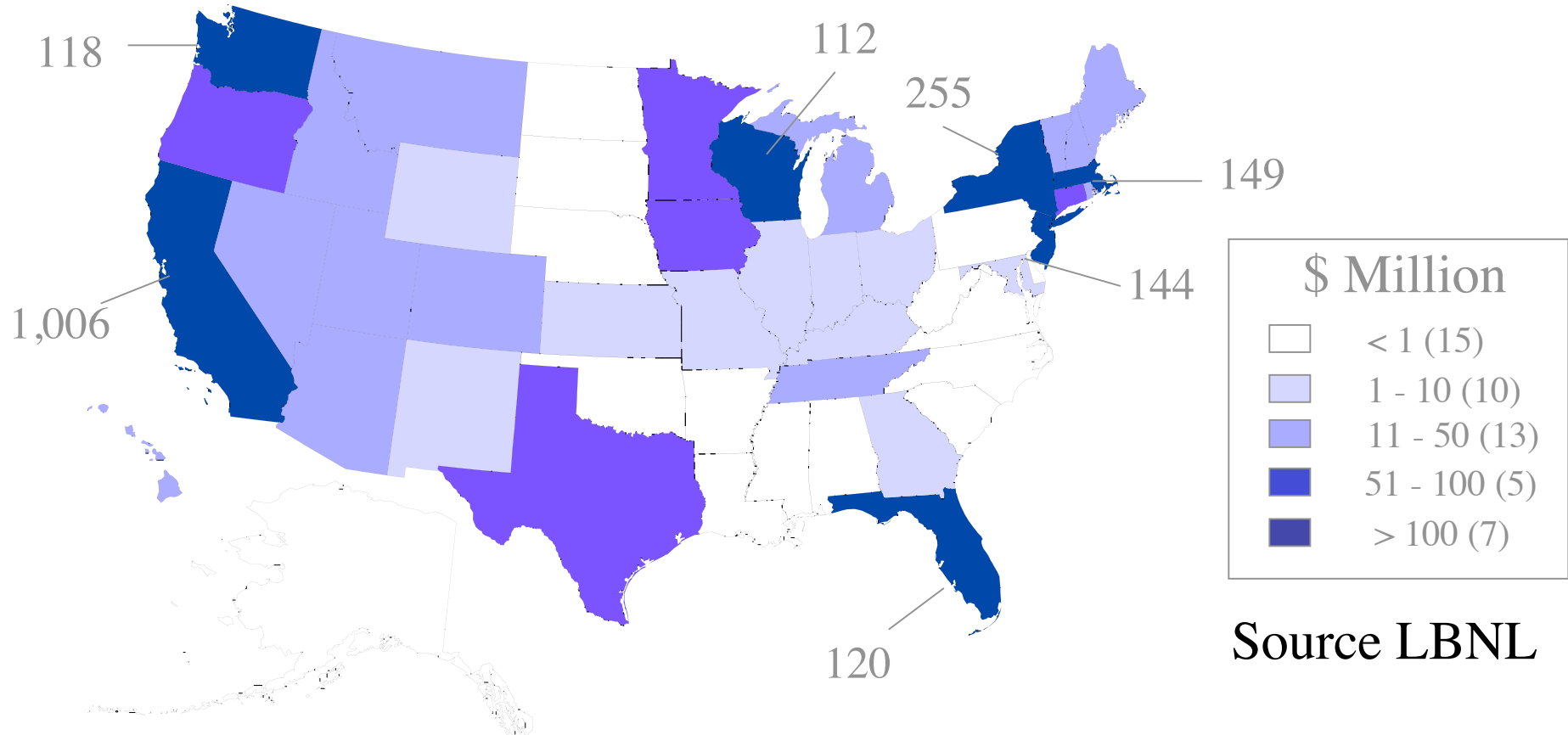
- 2007 Utility EE/Load Mgmt spending is ~\$3.1B (\$2.6B for Energy Efficiency)
- CA utilities account for ~39% of total spending
- Expect significant increases as other states and regions ramp up





U.S. Department of Energy  
Energy Efficiency and Renewable Energy

# EE Spending: Utility Sector

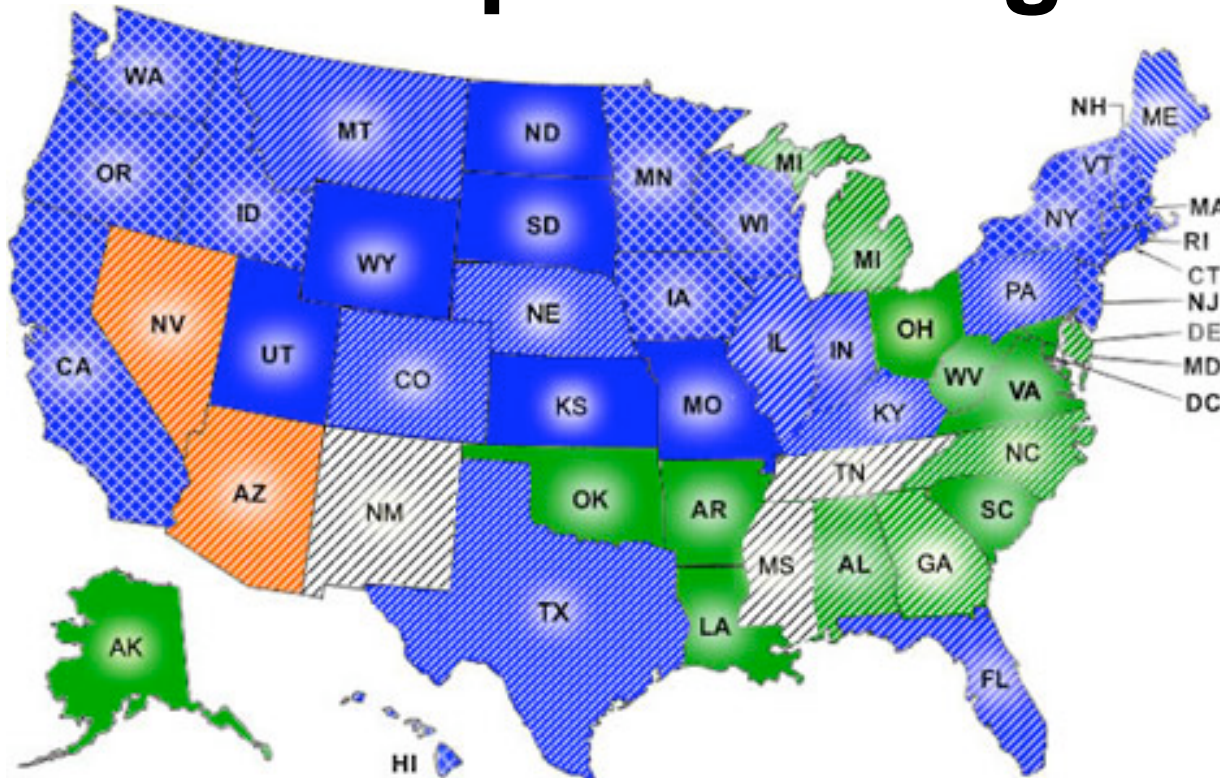


- 35 state PUCs have directed utilities and/or public benefit administrators to invest in energy efficiency
- U.S. Electric and Gas utility spending on energy efficiency was ~\$2.6B in 2007



U.S. Department of Energy  
Energy Efficiency and Renewable Energy

# Energy-Efficiency Funds and Demand Response Programs



[http://www1.eere.energy.gov/femp/program/utility/utilityman\\_energy\\_manage.html](http://www1.eere.energy.gov/femp/program/utility/utilityman_energy_manage.html)



# Why UESCs

- Many utilities are “new” to EE or are struggling to meet goals
  - Regulators want to see quick results
  - Still trying to develop programs that work
  - Need motivated customers and partners to help them establish programs
  - UESCs are plug and play
- Federal customers are an “easy” win
  - Often represent a large customer segment
  - Have aggressive EERE goals
  - Have an established contracting vehicle
    - Areawide contracts
    - Model agreements
  - Can get help from ESCOs and FEMP



# Why UESCs

- Federal customers often approach utilities asking them to offer UESC
  - Provides service to key customer group
  - Utility rebates may only cover part of project cost
- Represents a way to grow beyond core business in an area favored by regulators and customers
- UESC model can be exported to other segments
  - Universities, State and local Governments etc.



# Why Work With Utility

- Known entity with an established relationship
- Utility often already has knowledge of facility
- Flexibility in scope and size, smaller projects feasible
- Flexible (a la cart) contracting can be customized to the needs of customer
- Some utilities have very low cost financing
- It's an established source
- "Free Services" get them hooked



U.S. Department of Energy  
Energy Efficiency and Renewable Energy

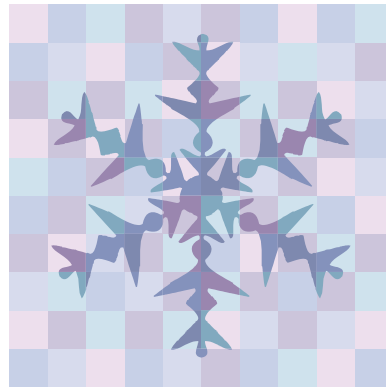
# Up Coming events

- UESC workshop Dallas, TX Hosted by Atmos Energy April 29-30
- Federal Award Submissions due, May 23
- UESC Workshop June 11-12 Washington D.C., Hosted by PEPCO
- **GovEnergy, Phoenix AZ, August 3-6**
  - HQ hotel is 60% booked (it's a haul for others)
  - Exhibit hall 70% booked
- Labs 21, San Jose CA, Sept. 16-18
- EEI National Accounts, Las Vegas NV, Oct. 12-15



U.S. Department of Energy  
Energy Efficiency and Renewable Energy

# Have a great time at the BEACH



David McAndrew

[david.mcandrew@ee.doe.gov](mailto:david.mcandrew@ee.doe.gov)

202-586-7722